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| **COMSATS University Islamabad**  **Sahiwal Campus** | | |
| **Department of computer science** | | |
| **Lab Assignment # 1** | | |
| **Subject:** Programming Fundamentals | **Couse code:** CSC103 | **Due date: (See portal)** |
| **Instructor:** M. Khurram Nisar | **Class:** FA23-BCS-E | **Total marks:** 10 |

Note: You need to develop and run these programs of your own. I may conduct viva/quiz to verify if programs are actually written by you. Failure to show understanding of code, copied assignment and code written using AI tools will yield 0 marks.

1. Write a program that inputs radius of sphere from the user and then Calculates its volume and surface area using the formula Area = 4πR2 and circumference = 4/3πr2 where π = 3.14 .
2. Write a program to find out the area of triangle when the sides and of the triangle are given. Use appropriate statements to input the values of a, b, and c from the keyboard. Formula for the area of triangle is area = where s = ( a+b+c ) / 2.
3. Write a program to calculate the volume (V) of a cube by taking measures from the user. (Formula: V = length \* width \* height).
4. Write a program that inputs the x, y coordinates for two points and computes the distance between two points using the formula.

Distance = √( (x2 – x1)² + (y2 – y1)² ).

1. Write a program to swap the values of three variables with using fourth variable.
2. Write a C++ program to enter a letter and display the next two letters.
3. Write a program that inputs a number and displays its corresponding ASCII code.
4. Write a program that inputs principal amount, rate of interest and total time. It calculates the compound interest and displays it.
5. Write a program that inputs five-digit number through the keyboard and calculates the sum of its digits.
6. Write a program that inputs Basic Salary and calculates 35% dearness allowance, 25% house rent and then displays the gross salary.